



## PATENT ABSTRACTS OF JAPAN

(11) Publication number: **06280068 A**(43) Date of publication of application: **04.10.94**

(51) Int. Cl. **C23G 5/00**  
**B08B 7/00**  
**B21B 28/02**  
**B21B 45/04**  
**H05H 1/32**  
**// H01H 33/66**

(21) Application number: **05065187**(22) Date of filing: **24.03.93**(71) Applicant: **NIPPON STEEL CORP**(72) Inventor: **MATSUOKA KIYOSHI**  
**HAYASHI HIRONOBU**(54) **VACUUM ARC TREATING DEVICE**

## (57) Abstract:

**PURPOSE:** To protect a conductor roll from a cathode spot of a vacuum arc by arranging a non-conductive shield roll between the conductor roll electrically connecting a material to be treated with the negative electrode of an arc electrode and a positive electrode.

**CONSTITUTION:** The band-like material to be treated is continuously shifted in a vacuum chamber. This material to be treated is electrically connected with the negative electrode of the arc electric source 7 through the conductor roll 1. This material to be treated is used as the negative electrode and the vacuum arc discharge is generated between this negative electrode and the positive electrode 4 to execute the treatment of the vacuum arc descaling, etc. In the vacuum arc treating device, the shield roll 9 composed of the electrically non-conductive material is arranged between the positive electrode 4 and the conductor roll 5. This shield roll 9 is made to be a hollow structure, and coolant is supplied into the hollow part, and it is preferable to closely stick to the surface of the material to be treated. By this method, it is prevented that the cathode spot is shifted to the downstream side

of the material to be treated and the conductor roll 5 is protected from the vacuum arc.

COPYRIGHT: (C)1994,JPO

